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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/637,650	08/11/2000	Chao-Feng Zheng	25436/1510	7825

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EXAMINER
MCKELVEY, TERRY ALAN

ART UNIT	PAPER NUMBER
1636	8

DATE MAILED: 07/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/637,650	Applicant(s) ZHENG, CHAO-FENG
	Examiner Terry Mckelvey	Art Unit 1636

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 May 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) *10-23 and 27-32* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9 and 24-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR 1.821(a)(1) and (a)(2). However, this application fails to comply with the requirements of 37 CFR 1.821 through 1.825 for the reason(s) set forth on the attached Notice To Comply With Requirements For Patent Applications Containing Nucleotide Sequence And/Or Amino Acid Sequence Disclosures. Applicant must comply with the requirements of the sequence rules (37 CFR 1.821 - 1.825) before the application can be examined under 35 U.S.C. §§ 131 and 132.

Applicants are required to comply with all of the requirements of 37 C.F.R. §§ 1.821 through 1.825. Any response to this Office Action which fails to meet all of these requirements will be considered non-responsive. The nature of the noncompliance with the requirements of 37 C.F.R. §§ 1.821 through 1.825 did not preclude the continued examination of the application on the merits, the results of which are communicated below.

Election/Restrictions

Applicant's election of Group I, claims 1-9 and 24-26 in Paper No. 7, filed 5/31/02 is acknowledged. Because applicant

did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 10-23 and 27-32 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 6.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-9 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montminy (U.S. Patent No. 6,063,583) in view of Gilman et al (U.S. Patent No. 6,306,649).

Montminy teaches a host cell which comprises a reporter construct comprising a GAL4 response element operatively linked to a reporter gene and a vector comprising a promoter operatively linked to a nucleic acid encoding a fusion protein comprising a

Gal4 DNA binding domain operatively linked to CREB (which comprises the conditionally active transcriptional domain of CREB, which is conditionally active with respect to both phosphorylation and protein:protein interaction), wherein binding of the fusion protein to the Gal4 response element results in transactivation of the reporter gene (columns 5-8). The cell further comprises a construct encoding a fusion protein comprising an activation domain operatively associated with the KIX domain of CBP, which is an upstream activator of CREB (column 6). This reference teaches that any reporter genes can be used, such as luciferase, B-galactosidase, chloramphenicol transferase, and the like (column 6). Specific promoters, which are constitutive promoters in specific cell types, are suggested for use in the method (columns 5 and 7). Specific cell types, including HeLa cells, are suggested for use in the method (column 7). The cells that are taught read on a kit comprising the cell and packaging therefore because the cell must be in a container.

Montminy does not specifically teach the reporter construct and nucleic acid encoding the fusion protein(s) stably integrated into the cell.

Gilman et al teach an expression system comprising a nucleic acid encoding a fusion transcription factor protein comprising a DNA binding domain (such as the Gal4 DNA binding domain, and various others known in the art) and a heterologous transcriptional activation domain (selected from naturally occurring transcription factors (columns 1-2, 11, and throughout

the reference). This reference teach that constructs encoding the chimeric transcription factor and target gene construct can be introduced into cells as one or more DNA molecules, such as by a vector designed for integration into the host cell's chromosome (column 20). It also teaches that one may have a target site for homologous recombination where it is desired that a construct be integrated at a particular locus, such as for deletion and/or replacement of an endogenous gene (columns 20-21). Reporter systems for assaying the fusion protein transcriptional activity in the cell are also taught which comprises a reporter gene such as luciferase, CAT, secreted alkaline phosphatase, etc, operatively linked to a binding site for the transcription factor (column 13). Gilman et al also teach that the transcription factor can be expressed in a cell-specific manner by operatively linking the gene encoding the factor to a cell-specific promoter (column 13) and/or in a constitutive manner (columns 23-24).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the host cell comprising the vectors encoding the fusion proteins taught by Montminy by using vectors which are able to integrate the nucleic acid encoding the fusion protein and reporter construct, introducing the integration vector into a host cell, and selecting for host cells which have the nucleic acid stably integrated because Gilman et al teach that it is within the ordinary skill in the art to do so for the same type of expression systems.

One would have been motivated to do so for the expected benefit of being able to integrate the construct at a particular locus as taught by Gilman et al, which is useful in making cell lines which have the entire assay system taught by Montminy, with a known number of copies of each component of the system, which gives one of ordinary skill better control and reproducibility of the system. Based upon the teachings of the cited references and the ordinary skill in the art, there would have been a reasonable expectation of success in being able to integrate the expression system taught by Montminy stably into a cell as taught by Gilman et al.

Regarding the reporter gene used, it would have been obvious to use any of the ones taught by either cited reference or any other known in the art because both references teach that any of them can be used.

Regarding the use of Gal4 or LexA DNA binding domains in the system, it would have been obvious to use either, or any others known in the art because both cited references teach use of the Gal4 domain or any other known in the art.

Regarding constitutive and/or cell-specific expression of the fusion protein, it would have been obvious to use either type of expression because both are taught by Gilman et al and the promoters taught by Montminy also are constitutive and specific to cell type.

Regarding use of HeLa cells in the expression system, it would have been obvious to do so because Montminy specifically teach the use of HeLa cells in the system.

Regarding having the cells in a kit as claimed, it would have been obvious to do so because the cells must be in a container for growth, which container constitutes packaging for the kit comprising the cell.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-9 and 24-26 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 and 24-26 of U.S. Application No. 09/637,511. Although the conflicting claims are not identical,

they are not patentably distinct from each other because of the following reason.

The claims of '511 are drawn to a cell line and kit comprising a stably integrated nucleic acid construct comprising a reporter gene operably linked to a recognition sequence for a DNA binding protein and a nucleic acid comprising a sequence encoding a fusion protein, wherein the fusion protein comprises a DNA binding domain and a CREB transcriptional activation domain. The instant claims are drawn to the same cell line and kit, wherein instead of the specific CREB transcriptional domain, the transcriptional domain claimed in the instant claims is drawn to a conditionally active transcriptional domain, activation dependent on protein phosphorylation and/or protein:protein interaction, and thus the claimed cell line and kit is broader in scope and totally encompassing the '511 cell line and kit. It is prima facie obvious to claim an invention of a broader scope which totally encompasses a narrower invention claimed in another application.

Thus, the instant claims, if allowed, would extend patent protection of the cell line and kit of '511, in addition to providing patent protection to the cell line and kit not encompassed by the claims of '511 (e.g., drawn to use of a conditional transcriptional activation domain other than CREB). Also, if a patent resulting from the instant claims was issued and transferred to an assignee different from the assignee

holding the '511 patent, then two different assignees would hold a patent to the claimed cell line and kit of '511, and thus improperly there would be possible harassment by multiple assignees.

Conclusion

No claims are allowed.

Certain papers related to this application may be submitted to Art Unit 1636 by facsimile transmission. The faxing of such papers must conform with the notices published in the Official Gazette, 1156 OG 61 (November 16, 1993) and 1157 OG 94 (December 28, 1993) (see 37 C.F.R. § 1.6(d)). The official fax telephone numbers for the Group are (703) 308-4242 and (703) 305-3014. NOTE: If Applicant does submit a paper by fax, the original signed copy should be retained by applicant or applicant's representative. NO DUPLICATE COPIES SHOULD BE SUBMITTED so as to avoid the processing of duplicate papers in the Office.

Any inquiry concerning missing attachments or other minor formalities of this communication should be directed to the patent analyst, Zeta Adams, whose telephone number is (703) 305-3291.

Any inquiry concerning rejections or other major issues in this communication or earlier communications from the examiner should be directed to Terry A. McKelvey whose telephone number is (703) 305-7213. The examiner can normally be reached on Monday

through Friday, except for Wednesdays, from about 7:30 AM to about 6:00 PM. A phone message left at this number will be responded to as soon as possible (i.e., shortly after the examiner returns to his office).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Remy Yucel, can be reached at (703) 305-1998.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Terry A. McKelvey, Ph.D.
Primary Examiner
Art Unit 1636

June 30, 2002

Application No.: 09/637,650

NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

☒ 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to these regulations, published at 1114 OG 29, May 15, 1990 and at 55 FR 18230, May 1, 1990.

☒ 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).

☒ 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).

☐ 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."

☐ 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).

☐ 6. The paper copy of the "Sequence Listing" is not the same as the computer readable from of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).

☒ 7. Other: Sequence identifiers are missing throughout the application; for example: page 36, 1st para.

Applicant Must Provide:

☒ An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".

☒ An initial or substitute paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification.

☒ A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:

For Rules Interpretation, call (703) 308-4216
For CRF Submission Help, call (703) 308-4212
For PatentIn software help, call (703) 308-6856

PLEASE RETURN A COPY OF THIS NOTICE WITH YOUR RESPONSE